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The Problem of Aging and of Old Age

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CLINICAL ASPECT AND MANAGEMENT OF OLD AGE FROM THE PRACTITIONER'S POINT OF VIEW[1]

CHARLES FARNHAM COLLINS
Consulting Physician, St. Luke's Hospital

It is a pleasure and honour for me to have this opportunity of addressing you.

The topic covers a large field in medicine; important to us as physicians as well as to our fellow beings through many years of their lives.

I will try as much as possible to confine my remarks on old age as they come under the general care of a practitioner.

The Academy has arranged various subdivisions to be presented by special papers. Some of these topics of necessity I must touch upon, yet I will try to confine my remarks to the picture of the whole.

My field of work has been general medicine and the many-sided questions about patients from the early years to the declining life, have demanded my activities and interest; and it so happens that for some thirty-five years I have had medical charge of a home for the aged in this city.

[1] Delivered October 2, 1928.

Inmates of this institution must have acquired the age of 65 before admission, with their health such as would not come under the heading of hospital care; that would mean they must be able to live the life of usual activity of a person of 65 and should give no indication of soon becoming helpless invalids and bedridden. These people remain in the home until their final exit, unless unmanageable dementia of old age or acute surgical conditions demand special institutional care.

This age of 65, say, to 80 or even over 90 gives a wonderful field for general observations. It is true that these people are not cared for and treated on a modern hospital basis, but more from the point of view of the old in their homes.

It so happens that this group is composed of women from various walks of life, so the observation is not taken from any one class; collected material and data on aged males is from various other sources.

There is one large and important group of old age which I have not had the chance to watch for any consecutive period of years and that is the old physically worn out labouring man. Of course I have had some of these individuals under my care from time to time but usually for some acute disease or some old age infirmity. Whereas, the other groups I have watched from year to year, observing the gradual failure with incidental disturbances.

I would like to ask you, or maybe, you prefer to ask me, *What is old age?* We all know the size of a piece of chalk, and we all know old age when we see it, but that is a long way from a definition.

A few years ago, I listened to a very interesting paper presented by one of our leading specialists; the title was "Sleep;" he told us that when he began to write he had not the least doubt but that he knew what sleep was, yet discovered that words failed him; reference works on the topic gave him jumbled and contradictory definitions forcing the author to work out one for himself which he pro-

ceeded to do. This is what now taxes my ingenuity and it is not so very easy; old infers many years. Youth looks upon 60 as very old, even finished with life; the child of 8 or 9 considers the guiding adult of 30 as a completed unit with nothing beyond. I am aware that this statement is simply a social or psychological observation and not quite germaine to the medical view.

The question, "What is old age?" was put by me to a number of intelligent laymen and physicians to find what was their definition. The answers were variable and contradictory; most of them, if you will excuse slang, were full of holes. The simplest, therefore one of the best answers, was given me by an intelligent, able lawyer, a man in his 80th year.

Thinking a few moments, he answered, "It is a gradual deterioration of functions."

This coincided with the conception I entertained and seems to me the best general statement and least liable to destructive analysis.

We must have in mind, though, that gradual failure with time is one thing, and the deterioration of body functions and vitality due to disease producing a senility, is another, though results are similar if not quite the same. One frequently sees old age at say 30-40 due to inherited feebleness, sickness or a frail non-resisting childhood; vigorous youth early overstrained by heavy burdens, mental and physical, steps across the threshold into the waiting room of old age long before the allotted biblical years of honour or the mathematical time fixed by the insurance actuaries.

Years are not the only factor, and I shall have to refer to this later, yet if much water of the river of Time flows under the bridge, then surely the deterioration of old age will show itself. Let us *omit for a moment the pathological* conditions of aging and ask where is the beginning of the first so-called physiological aging.

We are told our body vigour and development runs to about the 30th year on the upward plane. Our mental force, about this time, reaches the point where it begins to bud and blossom in direct ratio to previous cultivation and quality of the soil. This premise I trust you will accept, for it is necessary to validate several conclusions which follow.

Now, what are the first indications of the beginning of physical aging? Or if you will, the beginning of deterioration?

I would like to give as my answer, that the "failure of the body readily to recuperate after pronounced physical fatigue, is the incipient sign of aging."

At the risk of being prolix, may I explain? A certain boy, in the vigour of youth, after prolonged physical fatigue, becomes very tired and overstrained. Then a period of rest follows, which usually includes food and sleep. Behold, the fatigue is gone, and he has again his vigour according to his normal make up for fresh exertion, and there remains no sign of strain. Naturally I am excluding strains and efforts which wreck one. The prize fighter in the ring, at the end of the fight, seems on the verge of collapse. But unless he receives permanent physical injuries, he, after a short rest and recuperation, returns to his normal.

Bring this closer home: professional men are subjected to many taxing fatiguing labours, mental and physical. We can all look back on periods of work which deprived us for one or two days of sleep and physical rest and frequently associated with mental anxiety. Our task once over, and a few hours' nap, a cold bath and something to eat, and we can do the next day's work with energy and pleasure, even ready again to undertake a new fatigue.

That is physical youth. But just as soon one notices that rest and food only partly restore us, and repeated

spells of recuperation are needed before our normal vigour seems to come again, that is not old age but it is a shadow, cast over vigour as a signal of a coming twilight.

Our laboratory workers report to us that a toxin is generated by muscle exertion and nerve energy which gives us the poison of tire, throwing a very interesting sidelight on this question, but I do not remember reading whether it is the rapid elimination of the generated poison which allows full quick recuperation in youth or whether the poison of old age is a more powerful toxic agent. This is a laboratory problem.

Youth and early middle age will undergo shocks and surgical interference and be the pathological conditions not too grave, the surgeon able and thoughful, we expect a quick rebound to normal. If the subject is past the point of rapid recuperation by rest and opportunity, his return is very slow and the recovery may leave him on a lower level of vitality for a long time.

At what age is this first change? When does a man begin to conserve his strength for fear it may give out and embarrass him? Figures are not easy to give, exceptions are so many we can easily place ourselves in a false light. Yet before 30 in a good, strong individual, this sign should not come, and many will go on to 40 or 45 years of age without realizing fatigue holds over. Yet I have observed that nearly all men and women by 40 begin, though unconsciously maybe, to consider the cost of fatigue.

Thus to paraphrase, *slow recuperation after a strain* is the first signal of physical deterioration on the road with the sign post pointing to old age.

To give an opinion of the first signs of beginning mental deterioration, the task is far more complicated, there are many intricacies of temperament, the way the mind has been developed and the stimuli under which the individual lives. There may be a parallel between the mental and physical, yet physical is more concrete, the mental is a far more subtle point and harder to fix. I think I am correct

in asserting that the beginning of physical deterioration takes place far sooner than the weakening of the mental faculties. Moreover the curve of mental failure is far more gradual than the physical.

There are all sorts of individual exceptions. Yet the mental vigour, thought and power stimulates the mind to work well on through the years and many are they whose mental acumen is of high order and these continue to do good work well on into advanced old age. In fact, the comparison with similar conditions of physical strength gives the advantage all on the side of mentality. Not only does this hold true in outstanding cases but average individuals under average conditions fail sooner in body than in mind.

In the group of old age I have specially watched for some years, I would estimate that 95 per cent. have retained their individual mental quality to a far better degree than the physical, and the majority of this group came from the plane of life in which the mental side was not the predominating one, and the physical strain under which their earlier lives were spent not excessive.

This picture I have been trying to sketch to you is an outline of the transition after full development to *insidious deterioration,* leading slowly but surely to senility assuming a working physiology appropriated to the years.

Alas, this type of gradual physiological failure is a distinct minority among the aged. I watched a few examples of this group during the closing years of their lives. My years are too few to have seen the whole panorama. I recall one normal deterioration, the picture of which, I think, will interest you.

It is a history of fatigue, then fatigue without any recuperation, so much so that with the slightest physical effort there was the dread of prolonged exhaustion. The mind had given up interest in most things except a gentle concentration on small personal matters. This patient was what one might call well. She was nearly 90, of a

calm disposition. The body was well nourished, not stout, though the musculature was soft; the skeleton not distorted by weakness: proper nourishment was taken with relish and digested; the intestines carried on their work, the urine examination was negative; bladder control good and the blood pressure not high; arteries to the tactile sense not thickened; the heart sounds clear, rather feeble but regular, the apex beat was faint; a fair chest expansion; the skin not shrivelled nor dry, the hearing good and with glasses could read the daily paper and Bible with reasonable interest. The speech was clear and the language complete. I cared for this patient several years and watched the picture change, or I might say, imperceptibly fade.

On one of my visits I found her in bed, reading her morning paper. She was usually up by breakfast-time, dressed and seated in her rocking-chair or busy about her room. I asked her if she felt ill or had any distress. "No," she said, "I am only lazy. I am going to get up after luncheon," which she did. After a few such days she felt disinclined to leave her bed. She read less, crocheted a little but it tired her. She was responsive in conversation on simple topics, then she failed to remember me from one visit to another, though she talked to her nurse about minor matters intelligently, if roused; ate very little, fluids only, and slept most of her time quietly. Reading and knitting were abandoned, breathing became more shallow; pulse soft and very small, and one evening she fell asleep and in that sleep, without a twitch, gurgle or groan, she went. This closing picture extended over a period of about 3 weeks. This story is the most perfect example I have ever witnessed of a human being passing into old age and leaving this earth by simple deterioration or gradual failure of physiological functions. We might call it the physiological *Nirvana*. The death certificate was signed, gradual transition in feeble old age.

Few others I watched have passed on to the beyond in a similar manner, but they did have some distinct visible

pathological change, maybe not very distressing, yet enough to explain clinically why they died. Such blessed and peaceful endings of life are not what we usually have to handle. To very few does the end come like the one horse chaise. All our health departments and insurance tables gives us data which force upon us quite another picture; most of mankind has a far rougher road of health to travel and must fight to prolong life, while we try to ameliorate his lot.

In advancing years the gradual unbalanced chemistry and an unbalanced organic function starts us on the way to feebleness and incapacity for work and progress.

The outstanding ravishing damage and results are found in the body circulation. In fact, 67 per cent. or more, close to three-fourths of the terminations after middle life are brought about through circulatory disturbance, leaving little more than 30 per cent. for growths, injuries and acute infections. I find reviewers on this subject laying great stress on this high percentage as due to our strain of living in our day under great pressure and activities with worries. For my part, I doubt this statement. We have no health department statistics of ancient times or middle ages; in fact only recently has modern efficiency established such. Yet the fragmentary accounts and descriptions of death many years ago leave the impression, even if not percentage figures, that failure of circulation through mechanical strain or system poison was as prominent then as now. All the old medical works, telling the tale of dissolution of those who were aged, give the picture of circulatory trouble, and intimate biographies in history tell the tale of dyspnœa, dropsy tapping, kidney failure, monoplegia, hemiplegia, inarticulate murmurings, coma. Human nature is always the same. Infections, body strains, mental effort in ages past, have all had the same results as to-day. It is true that we have better scientific understanding at our disposal, infant mortality has been greatly reduced by medical management, public education, also sanitation and specifics against contagion and infection.

All these have done wonders to check the ravishes of disease and control epidemics, saving working hours and days for the nation's man power, reducing economic waste and prolonging the life of the individual, also by our better chemical biological data, checking and controlling body suffering; especially must be added the great strides in surgery, accomplishing to-day results which even 40 years ago would have been called miracles.

This paragraph may be a digression but I had to give it as it is a memorandum of the key note of our modern medicine.

Arts and science and state have been great factors in prolonging the span of life. In fact, I think it is nearly two years which has been added in recent time to terminal age, which youth looks upon as useless. But that is not the point; it means all along the line of life many are conserved, mankind made more comfortable and the co-efficient of labour more productive for state and family.

If nearly three quarters of individuals reaching advanced years are suffering from circulatory distress, let us consider some of the subdivisions. As I mentioned at the outset, you will have special articles on these problems, but I am not exempt from touching them.

Our heart begins to pump in our very earliest state. If no acute toxic or physical force injures its functioning, it carries on the allotted task until slowly many phased deterioration destroys its power. Such a simple life work of the heart is unusual and rare, but by clinical observation we think we do see it at times.

The permanent heart damage in early youth plays no great part in old age; such cases (the endocardial and pericardial infections and mechanical damages) always preclude advanced years. It is quite true individuals with permanently damaged hearts, much to our surprise, carry on an active life for some time, even well on into adult age. I never found such an antecedent story in those who reached the real old age. You all know what a tremen-

dous amount of work the heart is prepared for and can carry out under stress without permanent damage. Yet such strain must not be too long nor too often. The healthy trained athletic individual will find athletic work health producing and heart force strengthened; other things being equal, such an organ in old age will do its work satisfactorily. Overtaxed hearts with a positive hypertrophy and following dilation, do not run into old age. The strong man of the circus, the heavy weight acrobat develop a heart hypertrophy which breaks circulatory balance fairly early. Two or three of such cases have come under my care when they had reached a moderate old age or middle life, all possible care and rest could not restore a circulatory balance. Until last year I had rather a unique example a long time under observation which though paradoxical bears on this very point.

A woman in childhood, due to infantile paralysis, lost the use of both legs. You have seen in homes for incurables how children in this group rapidly adjust themselves by using their arms for locomotion and carry the body inverted; they rapidly develop arm and shoulder muscles beyond the usual; in time these cases when older and the trunk heavier find the tax to drag and lift the body is considerably greater. The secondary heart tax and consequent hypertrophy can well be imagined. This woman referred to, when first coming under my care, was about 70 and enjoyed general good health. Her life was an indoor existence for the most part, consisting of occasionally going out in a wheel chair; locomotion at home was most remarkable; her body was fairly heavy, much of the time she sat on the floor and got about by humps and jerks; with astonishing arm strength she lifted herself on chairs and bed; last summer she died, over 90. As I said above, her health was very good and her functions carried on satisfactorily normal. But needless to say, this tremendous muscular effort of hoisting and dragging which I often watched with amazement (for it was an exertion which would have given me dyspnœa and vertigo), produced in her an oversized heart. This hypertrophy by daily use she

seemed to tolerate; she needed it and it was not accompanied by any signs of cardiac distress. The last few years though, she was obliged to curtail her physical activities to a minimum. Dyspnœa became marked; even at rest she was not quite comfortable; pulmonary stasis was the terminal cause of death at 90. This stands as an example of a heart overworked for a long number of years, yet with a toleration and balance allowing body comfort way beyond the expected. I attribute this to the fact that the heart was taxed daily; it was kept in practice, so to speak; there were not weeks or months during which the minimum was required, and then great effort demanded. Not many of us over 60, living our ordinary life, can chin on a horizontal bar more than 2 or 3 times without feeling the tax. Yet here was a woman who every day had done that type of exercise. Citing this case, do not accuse me of a paradox if I state prolonged over exertion and strain early producing a heart damage, precludes old age.

The next phase of heart accident I would like to mention is the serious acute dilatation. This is not confined to old age as you know; in youth and middle life it is often the unrecognized cause of ill health and debility. In old age though, it is the push down the hill of life and a drop over the precipice. The type of acute dilatation in youth has often come under the care of medical men and many examples make them too familiar to dwell on them here at any length.

But two examples in strong contrast at the opposite ends of the rainbow of life I would like to narrate.

In old people it is a dangerous situation.

A gentleman of 87 at the time of his death had been under my care for some years. He was a wonderful example of a happy, well-preserved old man. His mental keenness and cheerfulness was quite remarkable; he enjoyed tremendously his physical exercise, though somewhat limited, and he was very keen about life in general. He took periods of rest during the day, was fond of read-

ing and smoking his pipe, the taste for which he had not lost. He had a summer house on the coast of Maine and took a short daily dip in the cold surf with great zest. His heart sounds were clear and there was no marked enlargement, systolic contractions fairly strong, there was very little thickening of his radial vessels. His blood pressure stood around 130. He was a well preserved man for his age, yet his co-efficient of safety was not great. He was going strong; one cold winter's day after his luncheon down town he felt he would enjoy the bracing weather with the clear sky and the north wind, by walking home, a distance little less than two miles; with a heavy fur coat for protection he started his sportive proposition. He reached home. I was sent for and found him feeble, exhausted, catching his breath with difficulty, slightly cyanotic, pulse very flat, systolic pressure 127, heart sounds feeble, hardly audible, apex beat missing. The picture was one of cardiac weakness and stretching after over-exercise in old age. The end of about a month with great care and caution saw some improvement; he could sit in his arm chair, regained a little good cheer. He lost the enjoyment of tobacco, but in a few weeks his heart gave out. This is an example of fatal dilatation in old age.

Many of them are of the acute type and show no comeback and death is almost instantaneous, suspicious of a true angina. I will have occasion to refer to this type again under "Control of old age," for it is an example to warn physicians and friends of the aged to be very slow with regard to advising exercise for the old as a tone builder, even though you do not suspect a serious cardiac condition. As a contrast of this case of old age dilatation, at the risk of going outside of the scope of this paper I would like to tell you of a little girl of between three and four years of age, from birth a patient of mine. A healthy, well-nourished cheerful specimen of childhood and fully up to the activities of her age. The summer home was in the hills and the house situated quite high with a sharp declivity at the back going down to the stable, where there was a new pony just bought for the older children. The

children in their excitement and interest, all ran down the steep zig-zag path at the back of the house, taking their little sister of three and a half with them, to give her a treat. Then they all came up the hill with childlike speed, dragging the little 3-year-old with them, urging her to keep pace. At the house, they found a neighbor, another little child, had just arrived. In their great excitement over the new pony, they took the visitor down the steep hill to the stable, little 3-year-old, energetic sport, went along, then in a short space of time they clambered up this almost fatal path. The little one at high speed was dragged along toward the end, reaching the top in collapse, slightly cynanotic about the lips and fingers, gasping for breath. The mother, of course, was greatly alarmed. The child was under my immediate care for about 3 months in bed. Heart sounds hardly perceptible, soft murmur, apex not felt, by percussion the border was well outside the three-age limit. When the child rested quietly on her pillows, she was quite comfortable and cheerful, yet the least effort of sitting up or a little too much excitement brought on cyanosis and dyspnœa. The end of the story, the child made a very good recovery, the mother very wisely for a year or more allowed only the gentlest type of physical activities. This little child is now a woman of 25 and more, strong, well built, good horse woman, tennis player, and more than average physical activity, and mentally very keen and balanced. The reason I cite this child's case is to accentuate the situation in old age. With the old age type they are pushed to the edge of the precipice and over, whereas in youth, especially during the growing period, we can expect repair if handled early, wisely and for a long time. There are lots of milder cases in children; also milder cases in old age which we can patch up to run another lap.

Precordial pains play a great part in the distress of older people, especially men from the 5th decade, say up to the 70th year. This term "precordial pain" covers a multitude of unknown and unrecognized conditions. Recent years some good groupings and classifications have

been made and we must get away from the idea that every precordial distress must be a real angina. Cases of this type require a great deal of judgment, skill and caution not only to interpret and treat, but it is especially hard to decide upon the prognosis. I am surprised, however, to find how infrequently this symptom of pain is found in people of say over 70 without a story pointing to its previous occurrence. We do have it, of course, in advanced life out of a clear sky, this as a distinct anginal condition and of great severity; this type nearly all have arterial changes, involvement of the coronary artery and myocardical changes. I have watched a number of old people who have suffered from an almost constant precordial distress, meliorated at times, but never with complete remission for long, and by degrees only gradual failure. Nearly all these patients had a previous cardiac history in middle life. I have seen very few fatal anginal seizures in the aged in comparison with the number around 50 to 60; statistics and percentages to support my observation are not at hand and it is always dangerous to record as a fact an observation of one's own experience which at best has a limited field.

Acute endocardial and pericardial infection we seldom meet in old people. Acute infections in general are more rare. The low grade chronic toxic poisoning is very frequent and handicaps the old, but the chronic type does not appear to have the same selective action on the serous membranes; cardiac murmurs in the aged are mostly due to the changes in orifices of the chambers of the heart and aorta changes. The valves, of course, may become thickened and inelastic as part of old age fibrosis, but the acute endocardial inflammatory conditions and the subsequent damage we rarely have in old people.

Blood pressure and artery changes open up a very large field for discussion and analysis and you have later on more on this topic. Artery changes are often spoken of as synonymous with old age, claiming every old age is in direct ratio to artery changes. Such a point of view I do

not like to accept, true old age usually does show fibrous degeneration, but there are a great many old in years and fibrous change does not exist to any marked degree, and I have seen many old persons with arteries of marvelous elasticity, free from rigidity, and whose blood pressure at repeated takings is on the side of the lower scale.

Universal statistics put nearly 70 per cent. of all terminal conditions down to circulatory disturbance, which, of course, means heart and arteries and the associated changes in other organs. It has been an accepted axiom for a long time that the old require and obtain a compensating increase in blood pressure to carry on their activities. There is a slight fallacy here for though it is true with increase of fibrous density in the organs and tissues a proportional blood pressure increase is a compensation and distinct benefit, and this I presume, might mean physiological blood pressure. Connective tissue growth and thickness seem to me always to follow some slow toxic agent. I support the statement with two others: the fibrous connective tissue increase we find in the young or certainly middle aged with toxic irritants. How important the example of luetic infection; patients in early middle age will show fibrous changes away ahead of their years, various foci of infection producing changes and thickenings; cataracts, thickening of the ear drums with consequent reduced vision and hearing, these failings good authorities to-day are attributing to toxic irritants and as a further evidence we frequently find people of 40 or 50, who are suffering from blood vessel changes, pressure and beginning of fibrous thickenings, yet once the evident foci are eliminated, if damage is not too permanent, a return to normal, or certainly an improved condition results.

Many in old age I have watched whose functions carry on well, health good; in them no detected source of irritation existed and these invariably have been free of the so-called fibrosis. But the greater number of the aged are toxic in one way or the other. The biochemical physiologist no doubt is going to shed a good deal more light

on this field. This work is to be desired and in time will receive attention. Yet senile patients are not good subjects to work with, for as I said before, most of old age is pathologically complicated and only a small percent simple.

Certain sources of poison may be classed as self-evident. The first of these, the intestinal tract and the gastric digestion. With most old people the stomach does better work than the intestines, from the medical point of view; it is quite astonishing to see the meals and variety of foods and quantity the old may eat and if they have teeth or substitutes, can get away with it without signs of gastric distress. But I do not believe that 3 per cent. of old age, say between 70 and 90, have an intestinal tract which functions anywhere near the normal. The colon is sluggish, the small intestines give symptoms of distress, there is chronic inadequate elimination, constipation is moderate or marked, requiring constant attention. The ills following in the wake you all know, you have the catalogue in your hand with all the numbered pictures of human discomforture. In babyhood, youth and middle life, intestinal misbehaviour destroys the peace of mind and body interfering with work and pleasure. You have in youth and middle life a background, an energy on the part of the patient to help you bring these subjects back to normal. But in old age the task is not so easy, the functions are impaired and though moderate errors are corrected there is no reserve power; diet in old age helps but you will find old people unwilling to change their foods, the collaborating influence of exercise you cannot carry out, for the old do not want to exercise more than their habit, if by pressure you force it upon them, chances are you do damage. Massage must be very gentle. I had an old lady once who received active osteopathic treatment massage and she was nearly two weeks in bed recuperating. Colon irrigation in many cases has serious drawbacks producing annoying weakness and even syncope. Of course, all these stumbling stones are not in every path, but you are handicapped and each case has its own problem. You may gently and

wisely work out an idea which promises something, and receive your reward, yet after all is said and done, cathartics of one kind or another will be your sheet anchor, it is a shame to confess it.

Nearly all old people have found some cathartic which they find agrees with them and the wise man will listen to the praises of a pink, yellow or green pill or a brown liquid the patient treasures. If you find said pill or liquid does its work, find out the ingredients, use and hold on to it as long as it works. This does not sound like intellectual therapeutics, yet it often will prove more to the patient's advantage if you follow it rather than branch into some preconceived book knowledge of your own.

If the aged, specially the female, tells of daily regular elimination, beware, she is deceiving you, for the feeble old will be perfectly satisfied with the semblance of an accomplished reality, and you will find a stored up reserve requiring hours if not days of labour on your part or the nurse's to overcome.

The serious impaction, especially above the sigmoid, extending up as far as the transverse, is a dangerous and important situation in old people. I have had to deal with many of them and death was near, at times the mechanical problem proved fatal even with surgical assistance.

One marked instance I may cite. An old lady over 80, good appetite and digestion, physically very inactive, but the intestinal tract had behaved fairly well for years with the help of an intelligent nurse. A complication arose, elimination became poor, the descending colon was fuller than stronger medication and the usual irrigation could relieve. A mass lying in the line of the colon just above the sigmoid flexture was easily felt and gave one the impression of a moderate sized orange. The usual procedures from below were carried out with much caution, and the reward was very slight; the case was so desperate that the advice of the surgeon was asked. He felt the situation too precarious to allow any interference. A nurse,

very skilled in colonic irrigation and one experienced in the care of the feeble and the old had been working on this case and was almost ready to give up as the patient was becoming so weak, in fact the patient begged to be let alone to die in peace. We administered cardiac and general stimulants, and in the end, by this gentle method of placer mining methods and some light abdominal massage the obstruction was eliminated, the state of collapse cleared up, and the patient enjoyed again her usual health for some years. Forgive me if I am trite in reporting such a case, but it is an example of nearly fatal colon block in old age. Yet with patience and persistent endeavors a cure was obtained. In passing I would just like to mention that constipation in the aged often produces paradoxical diarrhœa.

Colitis in old age is not very frequent compared with middle life. It usually is the serious or watery type, less often the mucous variety and in most cases due to food errors and readily amenable to treatment; the bacterial and chronic involvement of the colon in my experience is rare in old people. Constipation or poor elimination through the whole intestinal tract is a dreaded foe at all times; it hastens old age and accentuates its feebleness.

You may recall the literature and reports a few years ago of the work done in an insane asylum at Trenton, N. J. The work was surgical and medical, carried out in reference to the colon on certain types of melancholia and dementia, especially as I remember a type occurring in old age. The cures were most spectacular. This seemed to me full of promise yet I realize how great must be the selective difficulty in this group of patients.

As hinted earlier, a colon which works well even with the advance of years is one of the best assets, other things being equal, for a tranquil old age; to put it more emphatically, it helps defer old age.

In this connection I would again refer to the increase of blood pressure, for an existing blood pressure with dis-

tressing symptoms is often relieved by treatment directed towards colon elimination alone.

In middle life the practitioner always seems to have it in mind, but in old age cases he is apt to overlook its importance, and persists in directing his efforts to the circulatory system per se. It is true the more advanced the change in the arteries and the other organs and the nearer the case approaches the true fibrosis, the less will be the benefits through colon management.

Oral infection goes hand in hand with the intestines as the next most important cause for old age misery. Tonsils and sinus trouble are not frequently met, yet at times the very aged do carry tonsils which demand active surgical treatment to relieve a positive chronic infection.

It is with some fear and trepidation I approach the problem of tooth and gum infection. This field of recent years has been done to death, so to speak, progressive fanatical wise men have gone way beyond the limits of judgment and common sense, and the sit pat over-conservative neglects the self evident foci and allow nefarious infection slowly to destroy bodily comfort and health. For the aged the management of these mouth infections is not always easy and requires a great deal of patience. In the first place the patients themselves hold back from any procedure demanding active surgical interference, and with reason, for old people have not the strength nor the will to undergo a troublesome, painful radical ordeal. Very seldom are the aged blessed with good sets of working natural teeth. Even if they have a fair number, the gums are apt to show considerable recedence and the tooth sockets are infected; the teeth soon become loose, and from the mechanical point of view alone, become a great nuisance. I have seen old people, while chewing, force a loose tooth so out of true that with their fingers they set it straight so as to go on eating. This, of course, is an absurdity and almost silly to tell, and needless to say, such a tooth is not long in residence. A further mechanical handicap is the poor grinding of the food and this is quite serious for ul-

timately the diet is liable to be limited to soft pulpy substances. They miss the benefit of the usual concentrated proteins and the balanced meals. They miss the saliva ferment and naturally have considerable starch bulk in their intestines to handle. Permanent or removable bridge work in the aged is not satisfactory, for the natural teeth, one by one, break down trying to carry the mechanical apparatus, making constant renewals and changes necessary; for the well to do and the punctilious this can be taken care of, yet for the poor and careless the end results are miserable.

The very skillful dentist, if born under a very lucky star, may produce a perfect fit of an artificial set. This new equipped mouth of the aged is a marvelous blessing, a *summum bonum*; mouth infection is eliminated, food may be taken in proper variety, properly ground, and a foul absorption eliminated. The shrinking of the gums and changes of the angle of the jaw with age, by degrees destroys the fit, and if the patient lives long enough, renewals must be made from time to time. Maybe you will tell me this is the dentist's work. So it is, but if you have the aged to look after, don't forget that the handling of this problem requires your greatest attention or better yet, supervision. Quite recently a patient of mine near seventy years of age, an energetic, active man, had for years carried many teeth known to be bad and dangerous to health. These bad teeth were supported by an elaborate gold backing, lattice work and all sorts of trestles. Toxic power began to demand action, extractions were quite an ordeal, stirred up some new infection, and the subsequent nervous distress of dental work was enough in eight weeks to affect this patient markedly. Although he had plenty of courage and pluck he was only too glad to get medical supervision, advice and support in his ordeal.

The laymen in speaking of old age, always ask me, "What about tobacco and alcohol?"

The question and answer is like hitting a wasp's nest with a stick—lots of stings and creates excitement. From

the Sunday school teacher (with a class of good little boys) way up to the eighteenth amendment, including the chemico-biological physiologist who studies the radicals and admires the graphic formula, as well as the physician who administers alcohol wisely, and is grateful to see how well it works.

Last winter in this Academy you had a symposium on alcohol. Certainly enough fumes and aromas were distilled to show how volatile and stimulating this substance could become if properly handled. Our Government has not yet laid its paternal hand on tobacco although they seem to plan a step in that direction and that may in time become another useful issue.

By these remarks you may readily see I am too much of an angel to rush deeply into the problem. Alcohol, tobacco or both, if used unwisely for any length of time, is detrimental always to all ages; in fact, old age is rarely reached if tobacco and alcohol are excessively used. You frequently see recorded deaths in advanced years, 90 or 100 and over, and the obituary announces that he always smoked and had his drink. This only proves toleration of moderation.

Many cases of men and women who, by their twentieth or thirtieth year, have tobacco hearts and general tobacco poisoning, are forced to abandon smoking and cannot resume it, and also young people who by use of alcohol even not what might be called excess, had their digestive functions, their dispositions and mental energies so disturbed that even small quantities could not be tolerated. I am not touching on debauchery, abuse and drunkenness. Such excesses give a self evident answer. It is my observation that men, and I will include women, with advancing years, generally curtail the use of tobacco. They do it of their own accord frequently. They feel compelled to for they find it does not agree with them for one reason or another. There are plenty of exceptions but that does not invalidate the usual. I also have the observation that men and women with advancing years use alcohol in small doses

to their satisfaction and benefit. Some may have used it in middle life sparingly or not at all, yet with age they nearly all accept it as a therapeutic dose. One does not very often see old people drink to excess. Occasionally they may surprise you by making free with the bottle whereas as a rule they keep to their scheduled timetable. Digitalis, strychnine and other accepted cardiac stimulants are of course the leading direct helpers, but I do believe for a simple cardiac tonic, producing beneficial results in the old, alcohol or whisky is above all others. Old people, say of eighty, feel easily tired. The food quantity is not great, they will take a dram or more of whisky in a little milk or water two or even three times a day between meals; such treatment in many cases produces a well being, better appetite and better sleep. The quantity is very small but I have sometimes found in the feeble it could not be increased without getting too much reaction. For men and the robust old the dose may be larger. Bad results I have not had. There is no habit danger, usually no increased doses except in acute emergency. I have been asked should whisky be given when blood pressure is high. High blood pressure in a robust individual of between 50 and 60 is one picture, but a feeble old man or woman of 80, despite arterial fibrosis and pressure is quite another situation. The first class no, the second class yes.

In conclusion may I add a few general remarks on therapeutic management of old age. Actual old age is a terminal condition even though the length of time to run may be considerable, and the problem presents itself of how to keep the machinery of body life running smoothly with its greatest possible efficiency, and not to whip it up to a breaking point. As I have tried to accentuate in my remarks, most old age has complications and problems and only a small portion give a picture of simple feebleness commensurate with simple deterioration.

When some thirty years ago I had a group of aged to care for, I went at my task from my active hospital experience, concentrating much on the circulatory system.

heart and action, quality of the vessels, and frequent taking of blood pressure. What I thought wrong I tried to improve and handled from the medical man's point of view. I soon produced most awkward situations. My patients who had been leading comfortable happy lives going about their usual daily occupations behold became weak, did not want to leave their beds, appetites failed, they were either very drowsy or restless and complained of much discomfiture. Suspending the treatment, they would begin to feel better, soon be up and about and free of distress. Perhaps you may criticise my initial treatment, but it followed the usual accepted hospital and private procedures for people of middle life.

Do not *meddle with old peoples' poor circulation unless* the patient gives signs of distress and indications of not tolerating their situation. In other words, so long as the pathological factors have established for themselves a working balance consistent with satisfactory comfort, let the situation alone. Likewise, in short or temporary circulatory unbalance, don't be too sure that *continued* active treatment must be undertaken. Often there will be a slight disturbance lasting a few hours or part of a day and then the balance comes down to the usual level.

Don't misunderstand me as advocating a masterly inactivity. Quite the reverse. Watch for disturbances, discover them before the patient feels the effects and use all means to ward off, but don't meddle out of turn.

Don't advocate exercise without most careful judgment. Aged don't exercise, they don't tolerate it nor do they need much, and such exercise as they do enjoy and seem to derive benefit from you might not think worth mentioning. I have seen an old gentleman after a couple of hours fussing over his papers at his desk put them aside tired and seek rest, and these people, mind you, are not decrepit old people but parallel to the infant who, by concentrated effort, mental or physical, fatigues quickly. Old people don't care much for fresh air, especially drafts. They are sensitive to atmospheric changes and especially in winter

they like their rooms heated to summer temperature dreading the currents of cold air, and seldom venture out of doors in cold windy weather. Of course, energetic age may be the reverse of this picture and you often have to check their almost youthful carelessness and the sort of boyish bravado of over exercise. The case I recorded above of the old gentleman daring a two-mile walk on a very cold winter day is a startling example.

The disposition and mental attitude is an interesting psychological problem in the old, but I hardly feel this is a place to take up mental disease of the aged and go into any details. The term childishness of age explains a great deal. Old people often put much store on small matters, are very apt to be touchy and jealous, showing selfishness about their small personal belongings like a little child, in contrast to their attitude in earlier life. Hallucinations, visions and loss of memory are not infrequent and become quite a problem to handle. Visions and hallucinations should put the physician on his guard for possible further serious mental outbreaks.

Pneumonia of old age and certain conditions are reviewed, I believe, in special papers. One old age surgical condition I would like to refer to in passing, and that is the senile fracture of the neck of the femur. I happen to have had quite a few of these. In some the shock alone in feeble old people proves fatal. In others, it is fatal on account of their being confined to their beds. Incidentally let me state, don't keep old people long in bed if it can possibly be avoided, for with poor circulation continued recumbent repose will soon lead to a pulmonary stasis and intestinal sluggishness with a fatal outcome. With fracture of the neck if old people can go through their first period following the accident, it is astonishing how great are the chances of recovery. I am apt to seek surgical advice at the outset and I find that the wisest surgeons take the view to do as little as possible in applying various mechanical devices used for younger patients. For old age could not tolerate these apparatuses with their

forced one position, and more than that a satisfactory union is not to be looked for.

Sandbags and support along the injured limb to avoid pain by any accidental motion and to correct the eversion of the foot is probably the wisest and safest, and put the patient in a semi-recumbent position if possible. If no complications arise get the patient up, at least sitting in bed and then in a chair, just as soon as the hip pain begins to subside and allows the patient to move without too much distress. Many have I seen make a satisfactory recovery which really is quite marvelous. They have their false joint according to the location of the fracture, yet with a stick are able to walk fairly well; the pain lessens and lessens, and for their age things are fairly satisfactory. Classical energetic surgical care would not have given better results and treatment would have been torture and hard for old age to endure.

To speak of drugs most useful and best tolerated by the aged, I need not say very much. A few of them I have reviewed.

Old people often are fond of medicines especially simples and preparations handed down with the family tree, also the drugs advertised with great promises back of them. Sound advice is to give as few as possible and try first the smallest dose you think might be of value, for the old, like children, often react too strongly after usual dosage. Therapeutic value of alcohol has been touched upon. Opium in all its forms stands out as one of the next most useful, especially in circulatory troubles. Its action on the heart and blood vessels put it at the top of valuable remedies. Not in the surgical or emergency medical doses but in small therapeutic quantity continued as a regular medication it is astonishing how great the comfort can be for the vessels and heart tone. A quarter of a grain of codeine three or four times a day, five drops up of the tincture of opium in heart distresses and pressure can give the greatest comfort. Morphine 1/8 grain by mouth or hypodermatically if necessary will control severe anginal symp-

toms and give the relief sought. In acute urgency, of course, large doses and energetic measures are indicated. Other heart drugs are employed under the usual circumstances. In the cerebral hemorrhage or intermittent claudication, morphine and chloral hydrate to my mind are par excellence and really the only drugs, for you know in these cerebral attacks the family excitement is pretty great, action is demanded and I have seen many a physician carried away and overdo his work.

A few words must be added in reference to the gland treatment which has come so much to the front. The stimulation of the endocrines in old age does become attenuated, failing in more or less direct ratio with the general deterioration.

Often we can establish a better activity by administration of the glandular products. The interlocking of the endocrine activities is such that the problem is not by any means easy to handle in spite of our recent advances. In old age the thyroid in small or graduated doses is one which does seem to work to the better establishing of the spirits and animation, a so-called tonic builder; sometimes the mixed or hormotones give very good results. As to transplanting, especially the popular simian testicular grafting I have no experience. Some reports lead one to doubt whether a worn chasis can stand the strain of a new powerful motor. I have already warned you, don't drive old age beyond the breaking point. If this procedure is applied to youth, jaded maybe, results might be beneficial, yet *I wonder*. Better balance *mind* with *body* for each *decade* of life and *care* for each decade.

One must walk quietly if he would travel far. "It is a most earnest thing to be alive in this world; to die is not sport for a man." CARLYLE.